

---

**Cellular repair of CNS disorders: an immunological perspective.**

**Journal:** Hum Mol Genet

**Publication Year:** 2008

**Authors:** Zhiguo Chen, Theo D Palmer

**PubMed link:** 18632702

**Funding Grants:** Immunology of neural stem cell fate and function

**Public Summary:**

**Scientific Abstract:**

Cellular repair is a promising strategy for treating central nervous system (CNS) disorders. Several strategies have been contemplated including replacement of neurons or glia that have been lost due to injury or disease, use of cellular grafts to modify or augment the functions of remaining neurons and/or use of cellular grafts to protect neural tissue by local delivery of growth or trophic factors. Depending on the specific disease target, there may be one or many cell types that could be considered for therapy. In each case, an additional variable must be considered--the role of the immune system in both the injury process itself and in the response to incoming cells. Cellular transplants can be roughly categorized into autografts, allografts and xenografts. Despite the immunological privilege of the CNS, allografts and xenografts can elicit activation of the innate and adaptive immune system. In this article, we evaluate the various effects that immune cells and signals may have on the survival, proliferation, differentiation and migration/integration of transplanted cells in therapeutic approaches to CNS injury and disease.

---

**Source URL:** <https://www.cirm.ca.gov/about-cirm/publications/cellular-repair-cns-disorders-immunological-perspective>